



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

EMERGENCY RESPONSE BRANCH
9311 GROH ROAD, ROOM 216
GROSSE ILE, MI 48138-1697

US EPA RECORDS CENTER REGION 5



475631

SUBJECT: **ACTION MEMORANDUM** – Request for a Time-Critical Removal Action at the Florida Gas Site, Village of Laurium, Houghton County, Michigan (Site ID # B529)

FROM: Jon J. Gulch, On-Scene Coordinator *Jo JG for JG*
Emergency Response Branch 1, Section 1

TO: Richard C Karl, Director
Superfund Division

THRU: William J. Bolen, Chief
Emergency Response Branch 1 *WJ 6/7/03*

I. **PURPOSE**

The purpose of this memorandum is to request and document your approval to expend up to \$879,518 to conduct a time-critical removal action at the Florida Gas Site (the Site), in the Village of Laurium, Houghton County, Michigan. The response actions proposed herein are necessary in order to mitigate threats to public health, welfare, and the environment posed by the presence of uncontrolled hazardous substances at the Site. The presence of hazardous substances existing at the Site has been documented, including heavy toxic metals and coal tar that contains seepage and direct release to a tributary of the Hammel River.

The response action proposed herein will mitigate the threats by properly identifying, removing, and disposing off-site of hazardous substances, pollutants and contaminants. Additional Site activities will include continued security; perimeter air monitoring; ditch sediment and contaminated soil removal; and installation of an impermeable barrier to stop the migration of free product and seepage of shallow gross contamination to an off-site drainage ditch. This response action will be conducted in accordance with Section 104(a)(1) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 USC §9604(a)(1) to abate or eliminate the immediate threat posed to public health and/or the environment by the presence of the hazardous substances. The uncontrolled conditions of the hazardous substances present at the Site require that this action be classified as a time-critical removal action. Continued Site investigation was and is necessary to determine the full extent of threats posed by historical coal tar wastes on Site, and to develop long-term engineering options for the mitigation of such threats. The proposed removal action set forth in this Action Memorandum will address immediate threats; however, longer term actions may be

necessary at some point in the future. The project will require approximately 45 working days to complete.

There are no nationally significant or precedent-setting issues associated with the Site. The Site is not on the National Priorities List (NPL).

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID # MI0002055150

A. Site Description

The Site is located in the Village of Laurium, Houghton County, Michigan (Figure 1) (sometimes referred to in background material as the "Florida Location"). The geographic coordinates are 47.22881" north latitude and 88.44119" west longitude. The Site is defined as the former manufactured gas plant (MGP) property located in the northeast quadrant of the intersection of Franklin Street and Lake Linden Avenue (M-26). The impacted drainage ditch, which historically received uncontrolled discharges of coal tar waste, is located on the south side of the Site along Franklin Street. These features are depicted on Figure 2. The Site topography is relatively flat with the exception of the slopes immediately adjacent to the drainage ditches.

B. Site Background

The following historical information was excerpted from the "*Remedial Feasibility Study Report- Florida Gas Project Plant Site*" by Coleman Engineering Company (CEC) contained in Michigan Department of Environmental Quality (MDEQ)-Remediation and Redevelopment Division files:

In the early 1900s, a MGP was constructed to provide gas for residential, commercial, and municipal use in the Florida Location. The MGP was operated as the Calumet Gas and Coke Company until 1935, when its Articles of Incorporation were amended and the name changed to the Peninsular Utilities Company. In 1946, the company name was changed to the Peninsular Gas Company (PGC). Between 1946 and 1947, PGC converted from a coal gasification process to distribution of propane gas. In 1966, PGC switched to the distribution of natural gas, and utilized the propane plant only during periods of peak demand (most recently 1978). Presently, PGC distributes propane and operates the natural gas distribution system at the Plant Site.

During the use of the Plant Site as an MGP, numerous "by-products" and wastes were produced including: coal tars, tar-water emulsions, ash, clinkers, oxide box materials, lamp black, and process wastewater. MGP wastes, collectively referred to as "coal tar wastes," were discharged directly into the drainage ditch adjacent to the Plant Site.

Subsequently, the drainage ditch conveyed the waste through the residential neighborhood, a series of wetlands, and eventually Hammel Creek.

Between 1992 and 2001, a series of investigations has been conducted by PGC and MDEQ, and U.S. EPA. In 1999, the U.S. EPA conducted a Site Assessment, which led to a removal action conducted by PGC. The investigations and Assessment confirmed the gross coal tar contamination's presence at the Site and in the drainage ditch network stretching from the Site through a wetland system to Hammel Creek. As defined in previous reports related to the Site, "gross contamination," as used herein, is dark, tar-like waste material that is "saturated with an oil-like substance or free phase liquid of an oil like substance." The gross contamination appears to differ in relative composition between the eastern and western portion of the Site. The gross contamination in the central and western portion of the Site appears to be dominated by coal tar. In the eastern portion of the Site, the contamination appears to be more related to oil, with fewer references to tar contamination. These observations are based on review of information contained in the *"Remedial Investigation Report-Florida Gas Project Plant Site"* by Coleman Engineering Company (CEC).

The CEC report lead to the culmination of a removal of approximately 8,208 tons of contaminated soil and sediment from the drainage ditch network and additional contaminated media from the wetlands between the drainage ditch and Hammel Creek. Details of these activities are contained within summary reports within MDEQ files. Removal of gross contamination from the Site has not occurred. Based on information contained within the *"Florida Gas Ditch Remediation Documentation Report,"* soil removal from the ditch adjacent to the Site was limited by "property access limitations, adjacent structures, and the project objectives." Removal efforts began at the toe of the slope and proceeded toward Franklin Street. Upon removal of contaminated soil and sediment along this stretch, gross contamination was observed. Upon completion of excavation, the area was restored to grade with backfill sand, a geo-textile fabric was installed upon the sand, and rip-rap was placed upon the geotextile.

In October 2005, MDEQ conducted a groundwater sampling event at the Site and surrounding network of monitoring wells. MDEQ noted the presence of dense non-aqueous phase liquid (DNAPL) in monitoring well GMW-3, along Franklin Street on the south side of the ditch adjacent to the southwest corner of the Site. Free product had not previously been observed at this monitoring well location. The appearance of free product at the GMW-3 location, adjacent to the ditch from which gross contamination had been removed in 1999, prompted the MDEQ to seek U.S. EPA's assistance to investigate the current ditch conditions.

On May 17, 2006, U.S. EPA, MDEQ and START conducted a Site Assessment, which included a walkthrough to evaluate surface conditions along the residential ditch area adjacent to the Site. The reconnaissance was conducted from the east end of the Site westerly (downstream) to the driveway for the first residence west of Lake Linden

Avenue (M-26). The Site was assessed for a visual reconnaissance of surface conditions. The Site Assessment investigation included:

- Evaluation of the reported presence of free product in GMW-3;
- Determination whether previously remediated ditch areas had been re-contaminated;
- Assessment of the horizontal and vertical extent of contamination in the ditch area;
- Evaluation of contaminant migration pathways to human and ecological receptors; and
- Recording of the stratigraphy beneath the ditch.

A total of 22 soil borings were advanced in the right-of-way along the Franklin Street ditch adjacent to the Site using a Geoprobe. The soil borings were identified as WESTON Geoprobe (WGP) WGP-01 through WGP-22. Installation of soil borings with the Geoprobe began near GMW-3 and generally progressed to the east. Boring locations were targeted for placement to penetrate the sand backfill placed after the 1999 ditch excavation remediation activities.

The MDEQ Geoprobe operator collected soil samples continuously (from ground surface to boring termination depth) with four-foot long macro core samplers. Typically, the boring termination depth was 8 feet (ft) below ground surface (bgs), but varied depending on the vertical location of the boring on the ditch bank. The borings were advanced to assess the following:

- Presence or absence of contamination in the backfill material and underlying native soils down to the dense glacial till layer that appears to be acting as a confining layer to retard contaminant migration;
- Geologic conditions and potential associated vertical and horizontal migration pathways; and
- Presence of potential DNAPL.

Soil cores from each boring were field screened with a photo ionization detector (PID) for the presence of volatile organic vapors. At five boring locations where contamination was evident, soil samples were collected from the visibly contaminated interval for laboratory analysis. Soil samples were analyzed for benzene, toluene, ethylbenzene, and total xylenes (collectively BTEX), 1,2,4-trimethylbenzene (1,2,4-TMB), 1,3,5-TMB, polynuclear aromatic hydrocarbons (PAHs), and Target Analyte List (TAL) inorganics. Soil samples were selected for laboratory analysis based on field observations and a total of five subsurface soil samples from the Geoprobe borings were selected for laboratory analysis.

During the Site Assessment, concentrations of VOC, PAH and inorganic analytes associated with coal tar contamination were detected in soil and/or sediment above the

U.S. EPA-Region 9 Preliminary Remediation Goal (PRG). Sample WGP-08 exceeded the PRG for benzene, trimethylbenzene, PAHs, arsenic and iron; samples WPG-16 and WGP-21 exceeded the PRG for PAHs; sample SED-01 exceeded the PRG for PAHs, benzo(a)anthracene, benzo(a)pyrene, arsenic, manganese, zinc and iron; samples WPG-06, WGP-10 and WGP-21 exceeded the PRG for arsenic.

The PAH and/or metal concentrations associated with coal tar contamination detected in soil and/or sediment during the Site Assessment were above Part 201 Drinking Water Protection (DWP) and Groundwater/Surface Water Interface Protection (GSIP) criteria at all locations sampled. Samples from WGP-16 and WGP-21 exceeded Residential Direct Contact Criteria (RDCC) for PAHs, while sample SED-01 exceeded RDCC for arsenic. Near surface soil at WSS-01, adjacent to SED-01 along the north bank of the ditch which was not previously excavated, also exceed RDCC for PAHs and arsenic.

According to the Region 5 Superfund Environmental Justice Analysis, in Michigan the low income percentage is 58% or greater and the minority percentage is 42% or greater. To meet the Environmental Justice (EJ) criteria, the area within one mile of the Site must have a population that is twice the state low income percentage and/or twice the state minority percentage. At the Site, the low income percentage is 48% and the minority percentage is 2% (see Attachment 2). Therefore this Site does not meet the Region's EJ criteria based on demographics, as identified in Region 5's "Interim Guidelines for Identifying and Addressing a Potential EJ Case," June 1998.

III. THREATS TO PUBLIC HEALTH, WELFARE, OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

The conditions at the Florida Gas Site present an imminent and substantial threat to the public health, or welfare, and the environment, and meet the criteria for an emergency removal action provided for in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), Section 300.415, Paragraph (b)(2), 40 C.F.R. § 300.415(b)(2)(i), (ii), (iv), (v), and (vii), respectively, which specifically allows removal actions for:

- i) *Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;*

This factor is present adjacent to the Site as there is unrestricted access to soil and sediments that contain contaminant concentrations in excess of EPA PRGs and Michigan Part 201 Residential/Commercial Direct Contact criteria at and near the surface of the drainage ditch. During the Site Assessment, children were observed playing in the ditch area. This is of concern because of the elevated levels of inorganic constituents, specifically arsenic, cobalt, and lead, in the drainage ditch sediments. Additionally, there is a wetland located near the Site, and the larger surface water body, Hammel Creek, is located downstream of the Site. Sediment sample SED-01 indicates that contamination migration occurred after previous remedial efforts, resulting in a

threat to nearby populations. Coal tar is a known human carcinogen based on sufficient evidence of carcinogenicity in humans.

Findings in humans are supported by evidence from experimental observations where coal tar caused cancer in rats, mice, and rabbits. Exposure to coal tar is associated with skin cancer. The primary routes of potential human exposure to coal tars and coal-tar products are inhalation, ingestion, and dermal contact. Coal tar, a DNAPL, can dissolve in water, move in slugs, droplets, or masses, and has the ability to displace water in porous media. Coal tar may move beyond/ahead of subsurface masses of accumulated vadose zone soil-pore coal tar residuals.

Evaluation of the soil samples collected from the Geoprobe borings (WGP series) in the previously remediated ditch area indicates that the contaminants that are present in excess of the EPA PRG and Michigan Part 201 Generic Residential Cleanup Criteria (GRCC) are primarily in the subsurface soil. The zones exhibiting sheen and the presence of DNAPL were similarly present in subsurface soil. Therefore, exposure to human receptors is not likely, as subsurface contaminants are not easily accessible at these locations.

Arsenic contamination at concentrations exceeding the EPA PRGs and Michigan Part 201 GRCC is present in the surficial sediment in the ditch, atop the geotextile placed as part of the 1999 remedial actions. The presence of even greater arsenic concentrations in nearby WSS-01, in an area that was not excavated, suggests that the arsenic may be related to Site contamination and is being deposited in the ditch through erosion of surface soils from the Site, as evident from the erosional channels observed leading from the Site, through the fence, and into the ditch. This ditch area is readily accessible, and children were observed playing in ditches nearby during the Site Assessment. The unrestricted access to the ditch makes the scenario of human exposure to contaminated soil likely.

Visible gross contamination, coupled with PAH concentrations that exceed EPA PRGs, GSIP, Groundwater Contact Protection (GCP), and RDCC criteria, and arsenic in excess of RDCC associated with coal tar contamination, is present in shallow subsurface soil (0.5-1.5 ft bgs) along the north bank of the ditch adjacent to the Site. This area is easily accessible to human receptors and was only one foot from the flowing water stream at the time of Site Assessment activities. The unrestricted access to the ditch makes the scenario of human exposure to the contaminated soil possible. While direct seepage of gross contamination was not observed, the leaching of contaminants into the surface water is likely and poses a direct exposure threat to aquatic life. Therefore, to mitigate the threats to human health and the environment, *removal of contamination along the ditch coupled with implementation of additional engineering control measures is recommended.*

- ii) *Actual or potential contamination of drinking water supplies or sensitive ecosystems;*

The Site is located adjacent to a residential community, a surface water body, and a wetland. Groundwater near the site may be used as a drinking water source for area residents (while potable water is provided through a municipal water supply system, the absence a local ordinance enables unlimited access to the aquifer, which may be consistent with historic land use in the area). Monitoring data suggest that contaminant concentrations in the upper aquifer groundwater in the affected area are above Part 201 Drinking Water standards. In addition, releases from the Site may impact the wetland and Hammel Creek, which are sensitive aquatic ecosystems. Currently, there are no long-term groundwater use restrictions at the Site (such as a local ordinance), and therefore, if groundwater is or was to be used as a drinking water source, it would pose a threat to human health.

- iii) *High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;*

This factor is adjacent to the Site as highly contaminated soil/sediments (above EPA PRG, GSIP and RDCC levels) are present near the surface as detected in soil sample WSS-01. Sediment sample SED-01 exceeds the PRG and RDCC for arsenic and represents material that may have migrated from surface soil at the Site due to observation of erosional channels. Contamination of this nature may migrate further downstream via continued surface water migration and associated sediment transport.

- iv) *Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;*

Heavy rains and rapid snowmelts typically occur during the spring and summer months in Michigan's Upper Peninsula. These weather conditions may cause water elevations to rise and move rapidly downstream in the drainage ditch. Contaminated soil at or near the surface may potentially be picked up by water movement and transported in water and sediments down gradient to human, plant or animal receptors. During the Site Assessment, a black particulate runoff was observed leaving the Site over the north bank of the drainage ditch.

- v) *The availability of other appropriate federal or state response mechanisms to respond to the release*

In April 2006, the MDEQ requested assistance from the U.S. EPA Region 5 Emergency Response Branch to address risks to public health and the environment from coal tar-contaminated soil at the Site. Hammel Creek in the Laurium vicinity may not meet the definition of a navigable waterway, because the significant waterfall between Laurium and Portage Lake, which is a navigable waterway, places the Laurium reach of Hammel Creek well above Portage Lake's ordinary high-water mark and out of navigable

waterway status. Therefore, a response under Section 311 (c)(I) of the Clean Water Act may not be available.

There appear to be no other authorities adequate to respond to the releases at the Site. By letter dated April 10, 2006, MDEQ has agreed that removal activities are the appropriate way to respond to the Site. Per this referral letter, MDEQ states that it "does not have the financial resources available to address the imminent threat posed by the MPG waste" nor to "commit to any long-term or short-term operation and maintenance."

IV. ENDANGERMENT DETERMINATION

Given the Site conditions, the nature of the known and suspected hazardous substances on-site, and the potential exposure pathways described in Sections II and III, actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response actions selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

The removal action proposed herein will take the following response actions to mitigate the threats posed by the presence of hazardous substances at the Site to public health, welfare, and the environment:

1. Providing immediate Site security and implementing access restriction controls, including fence construction and posting warning signs, to mitigate potential threats to human health through direct contact with the released coal tar;
2. Preparing a Site Health and Safety Plan and a Site Control and Access Management Plan;
3. Identifying and removing areas of pooled coal tar in the adjacent drainage ditch and/or contaminated soil or drainage ditch material;
4. Define and characterize the nature and extent of coal tar release areas both on-site and in the adjacent drainage ditch;
5. Implement Site re-grading and replacement of topsoil and/or sod along the portion of the Site that drains to the drainage ditch adjacent to the Site to eliminate contaminated surficial soil run-off;
6. Implement engineering control measures, such as lining the ditch adjacent to the Site, to prevent human health exposure to impacted soils and inhibit seepage of shallow gross contamination;

7. Install an impermeable barrier along the west, south and a portion of the east sides of the Site to prevent further migration of product and seepage of shallow gross contamination to the drainage ditch adjacent to the property,
8. Arranging for transportation of collected coal tar impacted soil/sediment to a secure off-site treatment, storage and disposal facility, in accordance with the U.S. EPA's Off-Site Rule (40 CFR § 300.440);
9. Install monitoring wells and institute a routine monitoring program (to be conducted by MDEQ) for the area inside of the impermeable barrier to monitor the movement of free product and seepage of shallow gross contamination;
10. Perform additional investigation, based on observed Site conditions during the Removal Action, to determine appropriate long-term seepage control measures to prevent coal tar waste releases to the ditch and surface waters of Hammel Creek; and
11. Take any other response actions to address any release or threatened release of a hazardous substance, pollutant or contaminant that U.S. EPA determines may pose an imminent and substantial endangerment to the public health or the environment.

The removal action will be conducted in a manner not inconsistent with the NCP. The OSC has initiated planning for provision of post-removal Site control consistent with the provisions of Section 300.415(l) of the NCP.

The threats posed by heavy metals and coal tar-impacted soils and seepage of shallow gross contamination, which are or contain substances considered hazardous, meet the criteria listed in Section 300.415(b)(2) of the NCP, and the response actions proposed herein are consistent with any long-term remedial actions which may be required. Elimination of hazardous substances, pollutants and contaminants that pose a substantial threat of release is expected to minimize substantial requirements for post-removal Site controls. However, additional wells will be installed on-site to monitor for movement of gross contamination and determine the appropriate long-term seepage control measures. MDEQ has agreed to incorporate these new wells into their monitoring well network for the Site. Additionally, the Site will be referred back to the MDEQ to facilitate an orderly transition to their planned Fiscal Year 2008 remedial activities and/or forwarded to the U.S. EPA Superfund Remedial Program for further evaluation.

The removal action will be conducted in a manner to obtain and preserve information and evidence which may be of use in a civil or criminal investigation of the Site.

The estimated costs to complete the above activities are summarized below. These activities will require an estimated 45 on-site working days to complete.

Detailed cleanup contractor costs are presented in Attachment 1:

REMOVAL PROJECT CEILING ESTIMATE

EXTRAMURAL COSTS:

Regional Removal Allowance Costs: \$ 677,932

Total Cleanup Contractor Costs
(This cost category includes estimates for ERRS
contractors and subcontractors. Includes
a 15% contingency)

Other Extramural Costs Not Funded from the Regional Allowance:

| | |
|---|--------------|
| Total START, including multiplier costs | \$ 55,000 |
| Subtotal, Extramural Costs | \$ 732,932 |
| Extramural Costs Contingency (20% of Subtotal, Extramural Costs) | + \$ 146,586 |

TOTAL REMOVAL ACTION PROJECT CEILING \$ 879,518

The response actions described in this memorandum directly address the actual or threatened release of hazardous substances, pollutants, or contaminants at the Site which may pose an imminent and substantial endangerment to public health or welfare or to the environment. These response actions do not impose a burden on affected property disproportionate to the extent to which that property contributes to the conditions being addressed.

Applicable or Relevant and Appropriate Requirements

All applicable and relevant and appropriate requirements (ARARs) of Federal and state law will be complied with to the extent practicable. The OSC sent a letter dated May 7, 2007, requesting ARARs to Amy Keranen, MDEQ-Remediation and Redevelopment Division for any applicable state ARARs. Any state ARARs identified in a timely manner will be complied with to the extent practicable.

All hazardous substances, pollutants or contaminants removed off-site pursuant to this removal action for treatment, storage and disposal shall be treated, stored, or disposed

at a facility in compliance, as determined by U.S. EPA, with the U.S. EPA Off-Site Rule, 40 CFR § 300.440.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Delayed or no action will result in increased potential of the toxic and hazardous substances to release, thereby threatening the environment and the health and welfare of nearby residents and other persons who are in proximity to the Site.

VII. OUTSTANDING POLICY ISSUES

None.

VIII. ENFORCEMENT

For administrative purposes, information concerning the enforcement strategy for this Site is contained in the Enforcement Confidential Addendum.

The total EPA costs for this removal action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be \$1,462,317.¹

$$(\$879,518 + \$63,000) + (55.15\% \times \$942,518) = \$1,462,317$$

IX. RECOMMENDATION

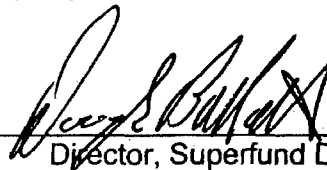
This decision document represents the selected removal action for the Florida Gas Site, in Laurium, Houghton County, Michigan, developed in accordance with CERCLA as amended, and not inconsistent with the NCP. This decision is based on the administrative record for the Site (see Attachment 1).

Conditions at the Site meet the NCP section 300.415(b) criteria for a time-critical removal action and I recommend your approval of the proposed removal action.

¹ Direct Costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site specific direct costs, consistent with the full cost accounting methodology effective October 2, 2000. These estimates do not include pre-judgement interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States right to cost recovery.

The total removal project ceiling, if approved, will be \$879,518. Of this, an estimated \$824,518 may be used for the cleanup contractor costs. You may indicate your decision by signing below.

APPROVE:

 ^{for}
Director, Superfund Division ^{RICHARDY} ~~ARL~~

DATE:

6/13/07

DISAPPROVE:

Director, Superfund Division

DATE: _____

Figures

1. Site Location Map
2. Site Specific Diagram

Attachments

1. Administrative Record Index
2. Region 5 EJ Analysis
3. Independent Government Cost Estimate

cc:

D. Chung, U.S. EPA, 5203-G

M. Chezick, U.S. DOI, **w/o Enf. Addendum**

R. Wagner, MDEQ, **w/o Enf. Addendum**

P.O. Box 30473

Lansing, MI 48909

Michael Cox, Michigan Attorney General, **w/o Enf. Addendum**

P.O. Box 30212

Lansing, MI 48909

BCC PAGE

(REDACTED 1 PAGE)

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

ENFORCEMENT ADDENDUM

**FLORIDA GAS SITE
VILLAGE OF LAURIUM, HOUGHTON COUNTY, MICHIGAN**

MAY 2007

(REDACTED 1 PAGE)

ENFORCEMENT CONFIDENTIAL
DO NOT RELEASE UNDER FOIA



ATTACHMENT 1

U.S. ENVIRONMENTAL PROTECTION AGENCY REMOVAL ACTION

ADMINISTRATIVE RECORD FOR FLORIDA GAS SITE LAURIUM, HOUGHTON COUNTY, MICHIGAN

ORIGINAL
MAY 31, 2007

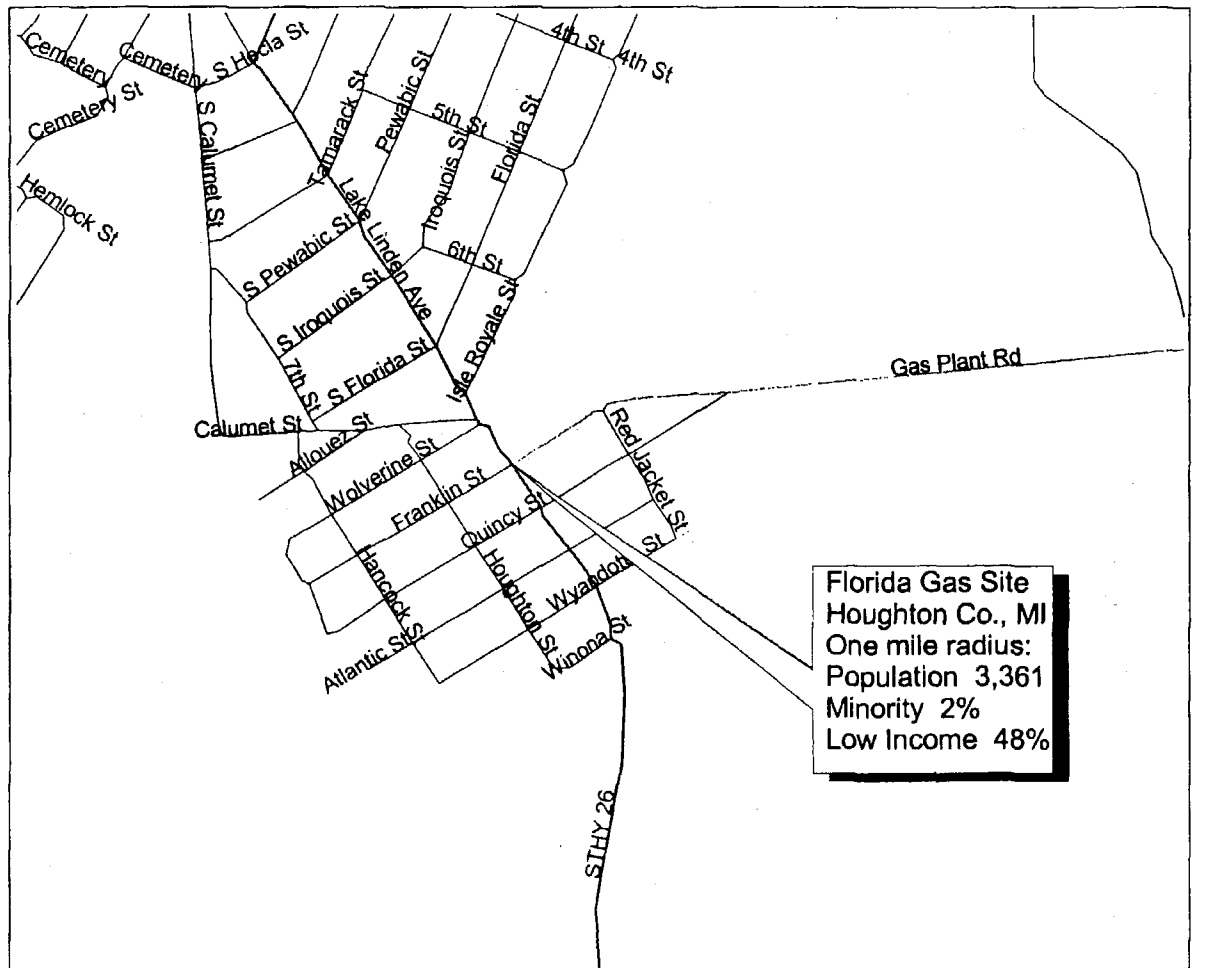
| <u>NO.</u> | <u>DATE</u> | <u>AUTHOR</u> | <u>RECIPIENT</u> | <u>TITLE/DESCRIPTION</u> | <u>PAGES</u> |
|------------|-------------|-----------------------------|----------------------|---|--------------|
| 1 | 09/09/99 | MDEQ | U.S. EPA | Integrated Assessment Report for the Florida Gas Site | 162 |
| 2 | 07/00/01 | Coleman Engineering Company | U.S. EPA | Remedial Feasibility Study Report for the Florida Gas Plant Site | 140 |
| 3 | 04/10/06 | Hogarth, A., MDEQ | E-Zein, J., U.S. EPA | Letter re: MDEQ's Request that the U.S. EPA Assist with Response Activities at the Florida Gas Site | 2 |
| 4 | 01/00/07 | Weston Solutions, Inc. | U.S. EPA | Site Assessment Report for the Florida Gas Site | 113 |
| 5 | 05/07/07 | Gulch, J., U.S. EPA | Keranen, A., MDEQ | Letter re: U.S. EPA's Request that the MDEQ Identify all ARARs for the Florida Gas Site | 1 |
| 6 | 00/00/00 | Gulch, J., U.S. EPA | Karl, R., U.S. EPA | Action Memorandum: Request for a Time-Critical Removal Action at the Florida Gas Site (PENDING) | |

Attachment 2
Region 5 EJ Analysis
FLORIDA GAS SITE
VILLAGE OF LAURIUM, HOUGHTON COUNTY, MICHIGAN
MAY 2007

Region 5 Superfund EJ Analysis

Florida Gas Site

Laurium, MI



State of Michigan averages:

Minority: 21%

Low Income: 29%

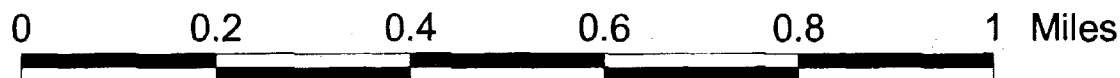
U.S. EPA Region 5

Environmental Justice Case Criteria for State of Michigan

Minority: 42% or greater

Low Income: 58% or greater

Florida Gas Site
Houghton Co., MI
One mile radius:
Population 3,361
Minority 2%
Low Income 48%



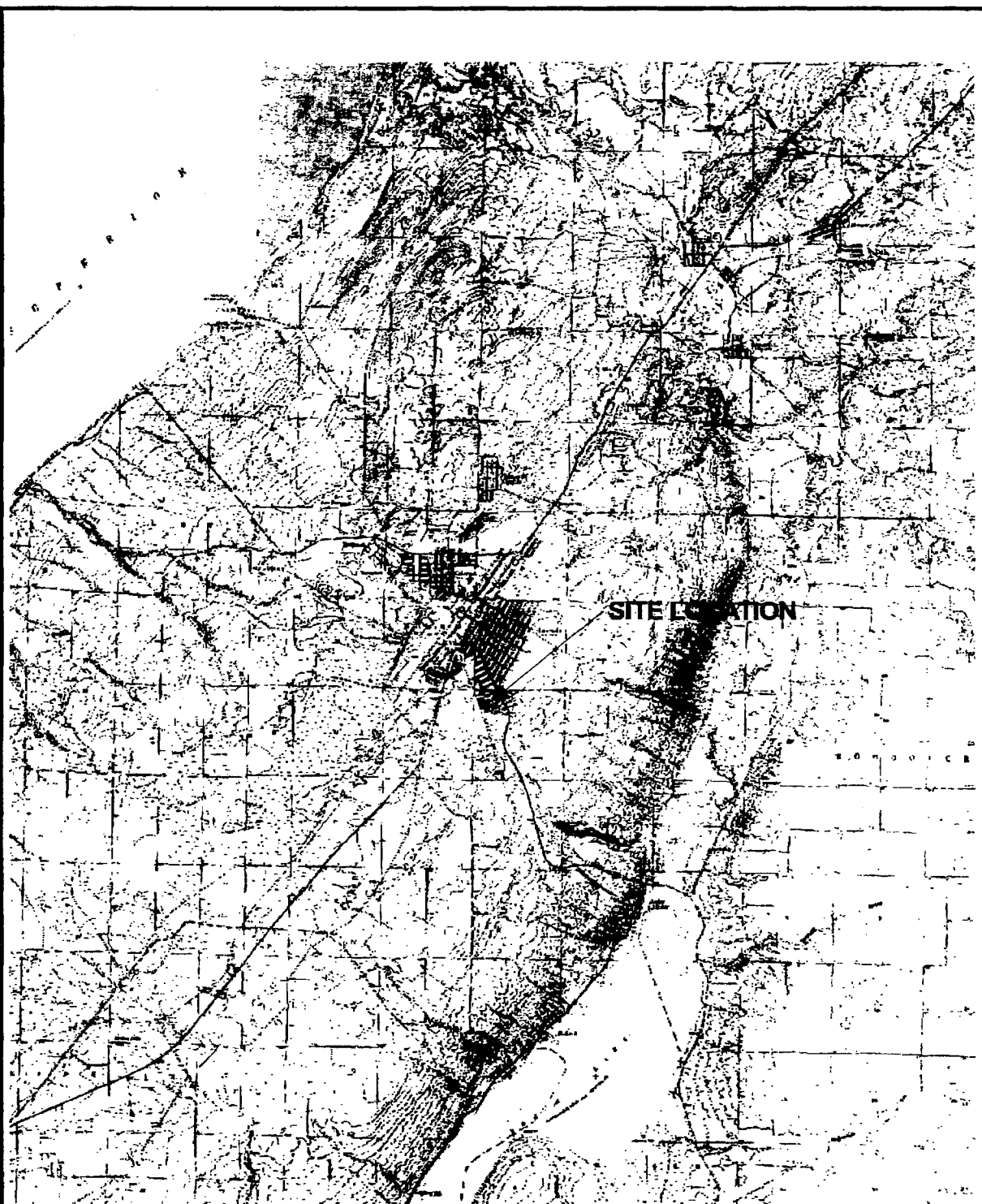
N
A

Date of Map: 5/7/07

Source of Map: Census 2000 Database/
ArcView 3.0

FIGURE 1

**FLORIDA GAS SITE
VILLAGE OF LAURIUM, HOUGHTON COUNTY, MICHIGAN
MAY 2007**



D:\Florida_Gas_GIS\april\florn_gas_2006_06_07.apr

LEGEND

- Site Location

Source: www.topozone.com
USGS Laurentum

Drawn By: NJK Checked By: JBC



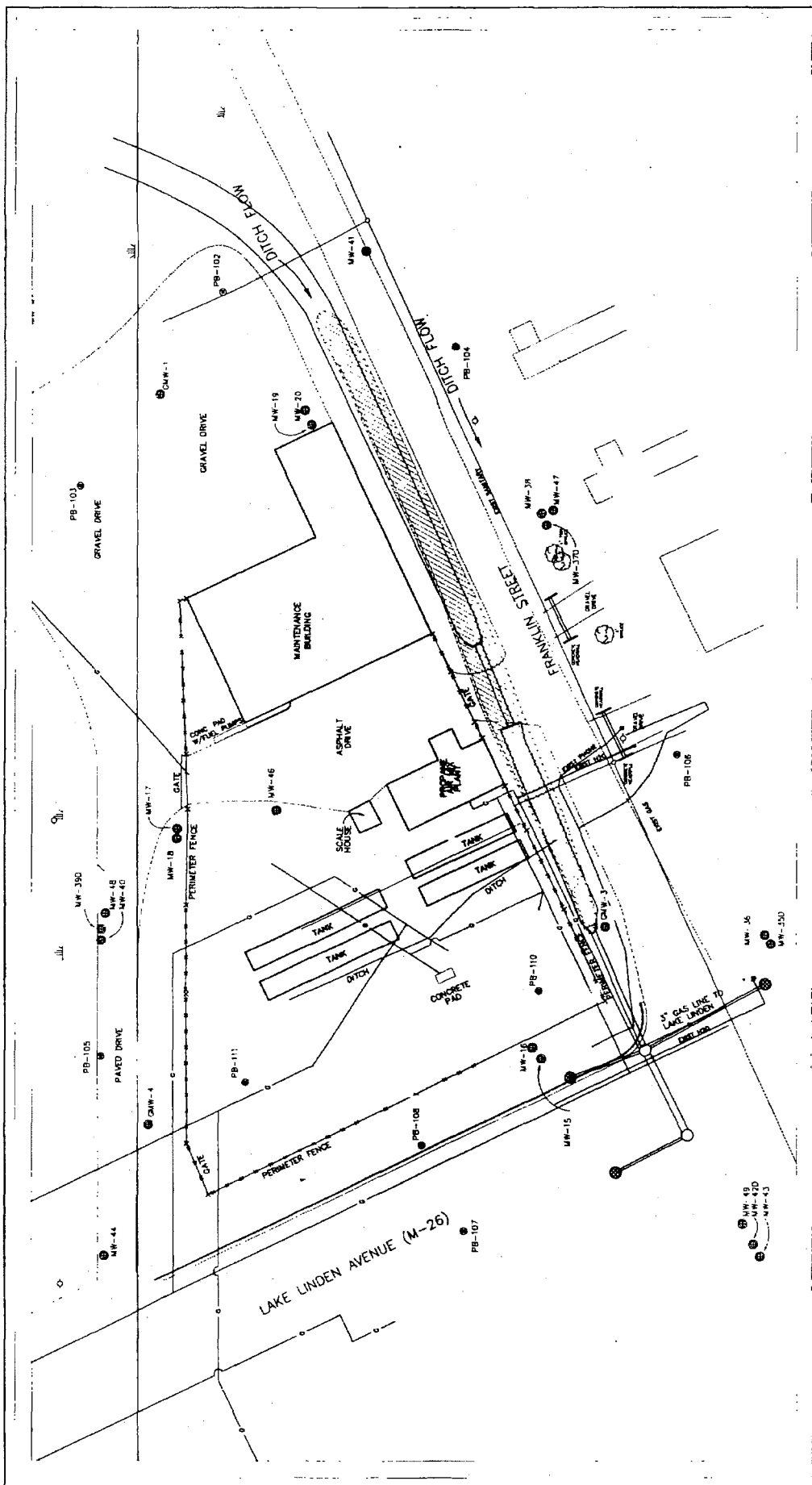
Weston Solutions, Inc.
2501 Jolly Road
Suite 100
Okemos, MI 48864

Figure 1

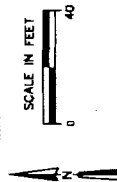
Site Location Map
U.S. EPA Florida Gas Plant Site
Florida Location, Michigan

FIGURE 2

**FLORIDA GAS SITE
VILLAGE OF LAURIUM, HOUGHTON COUNTY, MICHIGAN
MAY 2007**



- LEGEND**
- PB-108 HISTORIC BORING LOCATION
 - MW-380 MONITORING WELL LOCATION
 - RIGHT OF WAY
 - ▨ AREA THAT UNDERGOES SOIL REMOVAL IN 1999



Adapted from Coleman Engineering Company drawing 99001-F6-02A.dwg

File Path and Name: \\V:\207\Florida Gas Plant\99001-F6-02A.dwg

Designed by: Coleman Eng.

Project No. 99001

Created by: DMC

Approved by: DMC

SITE FEATURES

Suite 100

2501 Jolly Rd

Okemos, Michigan

48864

U.S. EPA Florida Gas Plant Site

Florida Location, Michigan

